UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,394	01/26/2004	Hae-seok Park	277/044	4583

7590 12/16/2005

LEE & STERBA, P.C.
Suite 2000
1101 Wilson Boulevard
Arlington, VA 22209

EXAMINER	
SCHINDLER, DAVID M	

ART UNIT	PAPER NUMBER
2862	

DATE MAILED: 12/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/763,394	PARK ET AL.	
	Examiner	Art Unit	
	David Schindler	2862	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☒ Claim(s) *18-38* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *6/02/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

2. Claims 3 and 18-38 are objected to because of the following informalities:

As to Claim 3,

The phrase "have are aligned" on line 2 is awkward.

As to Claim 18,

The phrase "forming an upper portion of the excitation coil at a position corresponding to the lower portion of the excitation coil" on lines 17-18 is unclear as it is not clear how the upper coil can be formed at a position corresponding to the lower coil. A similar issues appears on lines 25-26 with regard to the pick-up coil.

As to Claims 19-38,

These claims are objected to for being dependent from an objected claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by YAMAZAWA et al. (herein referred to as "YAMAZAWA") (JP2001099654).

Note that the cited pages and paragraphs for this reference come from a translation obtained from the Japanese Patent Office website. A copy of this translation has been provided.

As to Claim 1,

YAMAZAWA discloses a soft magnetic core ((26a) in combination with (26B)) formed on a semiconductor substrate (21) (Figure 1), an excitation coil ((28) in combination with (23)) winding the soft magnetic core and being insulated by first and second insulating layers deposited above and below the soft magnetic core (Figure 1), and a pick-up coil ((24) in combination with (29a) and (29b)), winding the soft magnetic core and being insulted by third and fourth insulating layers deposited above and below the excitation coil, respectively ((Figures 1, 4, and 5) and (Page 1, Field of Invention Paragraph) and (Page 6, Paragraphs [0054] – [0059]) and (Pages 6 and 7, Paragraph [0063])).

As to Claim 2,

YAMAZAWA discloses the soft magnetic core includes two parallel bars each disposed on a same plane (Figures 1 and 4).

As to Claim 3,

YAMAZAWA discloses the two parallel bars are aligned to have a length dimension in a direction of magnetic field detection (Figures 1 and 4).

5. Claims 1-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Choi et al. (herein referred to as "Choi") (2004/0027121).

The applied reference has a common inventor and assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

As to Claim 1,

Choi discloses a soft magnetic core (10) formed on a semiconductor substrate (Figures 3 and 4L), an excitation winding (Figures 3 and 4L) the soft magnetic core and being insulated by first and second insulating layers deposited above and below the soft magnetic core, respectively, and a pick-up coil (Figures 3 and 4L), winding the soft magnetic core and being insulated by third and fourth layers deposited above and below

the excitation coil, respectively (Page 1, Paragraph [0012], Lines 1-3) and (Page 3, Paragraphs [0035] and [0036]) and (Claim 32)).

With regard to the insulating layers claimed above, please note the epoxy resin disclosed in Figure 3 and page 3, paragraph [0035].

As to Claim 2,

Choi discloses the soft magnetic core includes two parallel bars each disposed on a same plane (Figure 3).

As to Claim 3,

Choi discloses the two parallel bars are aligned to have a length dimension in a direction of magnetic field detection (Figure 3).

As to Claim 4,

Choi discloses the excitation coil has a structure of alternately winding the two parallel bars substantially in a figure-eight pattern (Page 1, Paragraph [0011], Lines 6-10).

As to Claim 5,

Choi discloses the pick-up coil has a structure of winding the two parallel bars together substantially in a solenoid pattern (Page 1, Paragraph [0011], Lines 10-13).

As to Claim 6,

Choi discloses the pickup coil has a structure of individually winding the two parallel bars substantially in a solenoid pattern ((Figure 3) and (Page 3, Paragraph [0035])).

(It is noted that the Examiner is interpreting the alternately winding of the bars mentioned in, for example, in claim 12 to meet the above limitation. This reasoning applies to all claims dealing with two parallel bars.)

As to Claim 7,

Choi discloses the excitation coil has a structure of individually winding the two parallel bars substantially in a solenoid pattern ((Figure 3) and (Page 1, Paragraph [0011]) and (Page 3, Paragraph [0035])).

As to Claim 8,

Choi discloses the pick-up coil has a structure of winding the two parallel bars together substantially in a solenoid pattern ((Figure 3) and (Page 1, Paragraph [0011]) and (Page 3, Paragraph [0035])).

As to Claim 9,

Choi discloses the pick-up coil has a structure of individually winding the two parallel bars substantially in a solenoid pattern ((Figure 3) and (Page 1, Paragraph [0011]) and (Page 3, Paragraph [0035])).

As to Claim 10,

Choi discloses the soft magnetic core is formed in a rectangular-ring type (Page 1, Paragraph [0011]).

As to Claim 11,

Choi discloses wherein the rectangular ring is oriented to have a length dimension in a direction of magnetic field detection (Page 1, Paragraph [0014]).

As to Claim 12,

Choi discloses the excitation coil has a structure of alternately winding two opposite sides of the rectangular ring aligned in the direction of magnetic field detection substantially in a figure-eight pattern (Page 1, Paragraphs [0011] and [0014]).

As to Claim 13,

Choi discloses the pick-up coil has a structure of winding two opposite sides of the rectangular ring aligned in the direction of magnetic field detection together substantially in a solenoid pattern (Page 1, Paragraph [0011]).

As to Claim 14,

Choi discloses the pick-up coil has a structure of individually winding two opposite sides of the rectangular ring aligned in the direction of magnetic field detection substantially in a solenoid pattern ((Figures 5A-5F) and (Page 1, Paragraph [0011]) and (Pages 3 and 4, Paragraph [0037])).

(It is noted that the Examiner is interpreting the alternately winding of the rectangular ring mentioned in, for example, in claim 20 to meet the above limitation. This reasoning applies to all claims dealing with a rectangular ring.)

As to Claim 15,

Choi discloses the excitation coil has a structure of individually winding two opposite sides of the rectangular ring aligned in the direction of magnetic field detection substantially in a solenoid pattern (Page 1, Paragraphs [0011] and [0014]).

As to Claim 16,

Choi discloses the pick-up coil is deposited on the excitation coil, and has a structure of winding two opposite sides of the rectangular ring aligned in the direction of

magnetic field detection together substantially in a solenoid pattern ((Page 1, Paragraphs [0011]) and (Pages 3 and 4, Paragraph [0037])).

As to Claim 17,

Choi discloses the pickup coil is deposited on the excitation coil, and has a structure of individually winding two opposite sides of the rectangular ring aligned in the direction of magnetic field detection substantially in a solenoid pattern ((Page 1, Paragraphs [0011]) and (Pages 3 and 4, Paragraph [0037])).

6. Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Allowable Subject Matter

7. Claims 18-38 are allowed upon correction of the above noted claim objections.

8. The following is an examiner's statement of reasons for allowance:

As to Claim 18,

The primary reason for the allowance of claim 18 is the inclusion of forming a soft magnetic core on an upper portion of the second insulating layer. It is these features found in the claim, as they are claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Schindler whose telephone number is (571) 272-2112. The examiner can normally be reached on M-F (8:00 - 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David Schindler
Examiner
Art Unit 2862

DS

EDWARD LEFKOWITZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800